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Superintendent

Grade Level Expectations

Grades 3-8 and 10
Mathematics

Grade 3	1. Selects and uses appropriate problem-solving strategies (e.g., estimate, look for a pattern, simplify the problem) and technologies (e.g., paper and pencil, calculator) in many contexts.
	2. Communicates solutions to problems in a variety of ways (e.g. concrete, pictorial, graphical).
	3. Uses addition, subtraction, and multiplication of whole numbers to estimate, compute, and determine whether results are accurate.
	4. Selects and solves number sentences (with boxes or letters) that represent simple real-world addition or subtraction situations.
	5. Identifies two- and three-dimensional shapes.
	6. Identifies measurable attributes of objects (e.g., length, time), and selects and uses appropriate tools to measure them.
	7. Draws appropriate conclusions (makes interpretations) using data.
	8. Identifies a variety of patterns and states the next term in the pattern.
Grade 4	1. Selects and uses appropriate problem-solving strategies (e.g., estimate, make a table, look for a pattern, simplify the problem) and technologies (e.g., paper and pencil, calculator, computer) in many contexts.
	2. Communicates solutions to problems in a variety of ways (e.g., written, verbal, concrete, pictorial, graphical, algebraic).
	3. Uses addition, subtraction, multiplication, and division of whole numbers to estimate, compute, and determine whether results are accurate.
	4. Applies basic algebra concepts using concrete and symbolic representations (e.g., number sentences with boxes or letters) and communicates relationships in a variety of ways.
	5. Identifies two- and three-dimensional shapes and accurately uses relationships among shapes (e.g., combinations, subdivisions, symmetry, congruence, position) to solve problems in the physical world.
	6. Identifies measurable attributes of objects (e.g., length, capacity, weight, mass, area, volume, time, temperature), and selects and uses appropriate tools to measure them.
	7. Predicts and makes appropriate decisions using data (e.g., collects, organizes, constructs displays [including graphs], and interprets) to solve problems.
	8. Uses a variety of patterns to describe mathematical and real-world relationships.

Grade 5	1. Selects and uses appropriate problem-solving strategies (e.g., estimate, make a table, look for a pattern, simplify the problem) and technologies (e.g., paper and pencil, calculator, computer) in many contexts.
	2. Communicates organized solutions to problems in a variety of ways (e.g. written, verbal, concrete, pictorial, graphical, algebraic).
	3. Uses addition, subtraction, multiplication, and division of whole numbers and decimals to estimate, compute, and determine whether results are accurate and reasonable. Uses part/whole relationships in everyday situations.
	4. Applies basic algebraic concepts and communicates different representations of the same relationship (e.g., number sentence, picture).
	5. Identifies shapes and accurately uses relationships among shapes (e.g., combinations, subdivisions, symmetry, congruence, position) to solve problems in the physical world.
	6. Selects appropriate units for measurements, including square and cubic units.
	7. Predicts and makes appropriate decisions using data (e.g., collects, organizes, graphs, and interprets data).
	8. Uses and analyzes a variety of patterns to describe mathematical and real-world relationships in various ways.
Grade 6	1. Selects and uses appropriate problem-solving strategies (e.g., estimate, make a table, look for a pattern, simplify the problem) and technologies (e.g., paper and pencil, calculator, computer) in many contexts.
	2. Communicates organized solutions to problems in a variety of ways (e.g. written, verbal, concrete, pictorial, graphical, algebraic) and provides appropriate support (e.g., reasons, rationales).
	3. Uses addition, subtraction, multiplication, and division of whole numbers, decimals, and fractions to estimate and compute, and to determine whether results are accurate and reasonable.
	4. Uses basic algebraic concepts and represents relationships in appropriate ways (e.g., number sentence, picture, graph) to solve selected problems.
	5. Applies geometric relationships (e.g., symmetry, congruence, position) to solve selected problems.
	6. Performs conversions among basic units within a system of measurement and determines the areas of geometric figures.
	7. Makes reasonable predictions based on data, basic probability, and statistics (e.g., tables, charts, graphs).
	8. Uses and analyzes a variety of patterns to describe mathematical and real-world relationships in various ways.

Grade 7	1. Selects and uses appropriate problem-solving strategies (e.g., estimate, make a table, look for a pattern, simplify the problem) and technologies (e.g., paper and pencil, calculator, computer, data collection devices) in many contexts.
	2. Communicates organized solutions to problems in a variety of ways (e.g. written, verbal, concrete, pictorial, graphical, algebraic) and provides appropriate support (reasons, rationales).
	3. Uses rational numbers, proportions, and percents to solve problems.
	4. Uses basic algebraic concepts and represents relationships in appropriate ways (e.g., number sentence, picture, graph) to solve real-world problems.
	5. Applies geometric relationships such as coordinates and transformations to solve selected problems.
	6. Uses formulas to determine areas and volumes.
	7. Makes reasonable predictions based on data, basic probability, and statistics (e.g., tables, charts, graphs).
	8. Analyzes and describes patterns and functions using various representations (e.g., tables, graphs, verbal rules).
Grade 8	1. Selects and uses appropriate processes (e.g., estimation, multiple steps) and technologies (e.g., paper and pencil, calculator, computer, data collection devices) in many contexts.
	2. Formulates and communicates logical arguments using appropriate mathematical ideas (e.g. mathematical terms, notations).
	3. Uses rational numbers and proportionality (e.g., ratio, proportion, percent) to represent and solve problems, and determine whether results are accurate.
	4. Uses algebra concepts (e.g., variable) and methods (e.g., equation, graph) to represent and solve real-world problems.
	5. Uses geometric relationships (e.g., the Pythagorean Theorem) and properties (e.g., plane, solid) to solve real-world problems.
	6. Uses complex measurement (e.g., units and tools at appropriate level of accuracy, rates and other derived measures) to describe the physical world and solve real-world problems.
	7. Makes reasonable predictions and decisions using data, basic probability, and statistics (e.g., tables, charts, graphs, measures of central tendency), collect, organize, and describe data.
	8. Analyzes and describes functional relationships and their representations (e.g., tables, graphs, verbal rules, algebraic equations).

Grade 10	1. Selects and uses appropriate processes (e.g., estimation, multiple steps) and technologies (e.g., paper and pencil, calculator, computer, data collection devices) to solve a variety of problems within and outside mathematics and communicates the results.
	2. Formulates and communicates logical arguments using appropriate mathematical ideas (e.g. mathematical terms, notations, generalizations) and reasoning.
	3. Uses real and complex numbers systems to solve mathematical problems.
	4. Applies functions, graphs, and algebraic concepts to solve real-world problems .
	5. Applies geometric relationships (e.g., the Pythagorean Theorem) and properties (e.g., congruence, similarity) to model a variety of problems and situations.
	6. Applies complex measurement (e.g., derived measures, indirect measures) to describe and compare and contrast objects in the physical world and solve real-world problems.
	7. Makes reasonable predictions and decisions using data, basic probability, and statistics (e.g., tables, graphs, measures of central tendency, variability, correlation, sampling).
	8. Analyzes functions using graphical, numerical, and algebraic methods.